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Star.	Mag.	R.A. 1900·0	P.M. in R.A.	Dec. 1900·0.	P.M. in Dec.
		h m s	s	° ′ ″	
o Octantis	7·2	0 12 29·47	+0·006	−88 55 8·31	+0·001
Lacaille 634	5·6	1 43 7·85	+0·010	−85 16 29·14	+0·023
Lacaille 1029	7½	2 35 29·87	−0·018	−86 9 41·49	+0·001
Lacaille 1848	8·4	3 3 53·06	−0·052	−88 34 20·81	−0·030
Lacaille 1707	6·8	4 34 28·67	−0·018	−83 6 55·25	+0·015
Lacaille 2296	6·3	5 49 33·61	−0·010	−84 50 6·33	+0·086
Lacaille 2512	6·8	6 6 9·50	−0·022	−85 55 52·85	+0·004
Lacaille 3274	6·3	7 22 1·23	−0·009	−86 52 11·38	+0·007
A Octantis	7·8	7 53 1·68	−0·028	−88 34 24·92	+0·010
ζ Octantis	5·5	9 11 14·16	−0·111	−85 15 46·81	+0·045
Lacaille 4510	6·9	10 36 55·09	−0·008	−85 34 21·32	−0·018
η Octantis	6·2	11 0 0·96	−0·056	−84 3 21·36	0·000
ι Octantis	5·4	12 44 26·89	+0·035	−84 34 48·60	+0·029
κ Octantis	5·7	13 24 42·05	−0·077	−85 16 24·74	−0·018
z Octantis	6·5	14 38 59·80	−0·186	−87 44 30·65	−0·061
ρ Octantis	5·7	15 20 11·44	+0·081	−84 7 55·04	+0·082
Lacaille 6545	6·0	16 23 34·41	−0·004	−86 10 42·67	+0·014
χ Octantis	5·2	17 56 4·34	−0·114	−87 39 51·38	−0·124
σ Octantis	5·5	18 59 43·21	+0·085	−89 15 16·45	−0·005
Lacaille 8094	6·3	19 37 36·44	−0·008	−81 36 0·52	+0·007
Lacaille 8257	7·1	20 18 47·39	+0·027	−84 44 48·45	+0·030
B Octantis	6·6	21 37 38·51	−0·012	−89 19 3·12	−0·034
C Octantis	5·7	22 12 34·98	−0·043	−86 28 33·63	+0·070
τ Octantis	5·6	23 13 9·48	+0·018	−88 1 52·85	+0·010

Royal Observatory, Cape of Good Hope :
1897 *April* 5.

New Double Stars found at the Cape Observatory in 1896.

(*Communicated by D. Gill, C.B., LL.D., &c., H.M. Astronomer.*)

The new double stars contained in the first of the two following lists have been found by Mr. R. T. A. Innes with the 7-inch equatorial of this observatory. They are numbered in continuation of his lists in the *Monthly Notices*, March 1895, vol. lv., and the *Journal of the B.A. Association*, April 1896, vol. vi. As the clock of the telescope is not sufficiently good for measuring, the angles and distances are estimated only. The second list contains stars found by the observers at the transit circle.

The magnitudes are taken from the different Cordoba determinations in nearly every case.

The mean date of observation may be taken as 1896·6.

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No.	Star.	Mag.	1900. R.A.			S.Dec.		Estimated. *p.*	Δ.	Mags.	Notes.
			h	m	s	°	′	°	″		
43	Lac. 9755	6·9	0	5	44	73	47·0	310	0·8	7·3– 8·3	Physical system. P.M. = 0″·13, 9°·1.
44	Lac. 95	7·6		23	27	55	10·6	250	0·75	7·9– 9·1	Lac. 102, mag. 7·3, is about 14′ N.f.
45	Lac. 130	6·9		28	49	55	52·8	280	0·8	7·1– 8·5	The chief star of *h* 3376, C being 10·5 mag. and 6′·5 distant.
46	Lac. 165	8·1		35	13	39	29·7	310	2·0	8·2–10·7	
47	Lac. 236	6·9		47	12	44	15·1	355	1·8	7·3– 8·1	
48	Lac. 272	7·2		54	0	67	6·0	342	0·75	7·5– 8·8	The P.M. is insensible
49	Lac. 278	7·0		56	17	53	7·3	40	0·8	7·5– 8·5	
50	C.Z. I. 293	9·0	1	12	42	37	48·4	140	1·0	9·4–10·4	Lac. 352, mag. 7·5, is 6 sec. f. 1½ N.
51	Lac. 460	7·0		30	6	46	12·4	15	1·4	7·2– 9·9	
52	C.Z. I. 1092	8·0		43	31	44	28·2	180	1·0	8·5– 9·5	The prec. of three stars in a curve.
53	Th –40°, 686	9·6	2	35	40	40	23·6	320	2·0	10·1–10·6	Closely N.p. C.Z. II. 953, mag. 8·3. Confirmed on Cape Cat. Plates.
54	C.Z. III. 123	8·7	3	5	0	41	44·7	320	0·7	9·4– 9·6	Closely S.f. Bris. 484, mag. 8·3.
55	P. III. 19	6·2		8	55	44	47·7	185	0·8	6·8– 7·3	This is the chief star of the old pair *h* 3556, the old companion being about 3″ distant and of mag. 10·4. When measuring this star in 1856 Jacob remarked "A suspicion that A is a close double in a direction nearly south." Likely to be an interesting system.
56	C.Z. III. 426	8·4		15	6	43	0·4	260	2·5	8·6–10·5	Bris. 553, mag. 7·6, is N.f.
57	C.Z. III. 686	9·0		24	0	59	38·2	210	1·5	9·2–10·4	C.G.A. 3804, mag. 8·7, is 12 sec. f.
58	χ_3 Fornacis	6·6		24	20	36	12·0	250	6·0	6·7–10·5	The central star of a group.

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No.	Star.	Mag.	1900. R.A. h	m	s	1900. S.Dec. °	′	Estimated. p. °	Estimated. Δ. ″	Mags.	Notes.
59	P. IV. 92	6·7	4	21	14	34	58·9	210	60	...	A and B + C.
								265	3·0	9·5–10·5	B and C = C.P.D. − 35°, 482.
60	Cape 1880, No. 2025	8·7		38	6	45	53·8	270	2·0	9·4– 9·5	
61	Lac. 1805	7·8	5	15	14	41	8·8	100	0·9	8·2– 9·2	
62	C.Z. V. 972	8·0		27	48	47	16·5	175	1·0	8·4– 9·4	In a small group with Lac. 1888, mag. 5·7.
63	Lac. 2024	7·1		45	39	48	57·0	358	1·3	7·3– 9·3	A 10 mag. star S.f. 90″ ±.
64	P. V. 274	6·2		49	8	37	39·1	250	10·0	6·2–11·5	Another comes n.f. = 11 mag.
65	Lac. 2546	6·5	6	53	43	35	22·5	150	0·6	6·7– 8·2	In a group of four stars.
66	C.Z. VI. 2756	7·9		54	42	35	17·0	255	2	8·1– 9·6	In a group of four stars. C.Z. VI. 2754, mag. 9·5, is 15″ p.
67	B Velorum	5·4	8	19	27	48	10·2	145	1	5·6– 7·6	
68	C.Z. VIII. 2571	8·6		32	52	30	28·9	f.	4	8·8–10·3	
69	P. VIII. 148	6·2		36	39	39	54·5	n.f.	2	6·3– 9·0	
70	Lac. 3539	7·0		43	57	38	34·4	110°	1·5	7·2– 9·2	
71	Bris. 2285	7·5		53	44	49	17·7	n.p.	5	7·7– 9·2	The prec. of three stars.
72	I Velorum	5·8	9	23	2	52	56·7	p.	50	−9·0	A and B + C.
								...	3		B and C.
73	Lac. 4315	7·2	10	24	52	48	28·6	s.p.	3	7·2–10·0	Another comes 10·5 mag. N.f. 20″. C.Z. X. 1741, mag 7·8, is 8 sec. f. 3′ N.
74	Bris. 3103–4	8·5		31	33	63	36·7	s.p.	2	8·7–10·3	Lac. 4376, mag. 8·0, is about 30′ S. prec.

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No.	Star.	Mag.	1900. R.A. h m s	1900. S.Dec. ° ′	Estimated. *p.* °	Estimated. Δ. ″	Mags.	Notes.
75	Anon.	8·5	34 12	64 30	s.f.	3	9·0– 9·5	Lac. 4405, mag. 7·5, is 40 sec. p, 1′ S., and 20′ further S. will be found a fainter pair observed at Cordoba = C.Z. X. 2403.
76	Th – 30°, 9211	9·5	11 22 23	30 11·3	n.f.	3	10 –10·5	
77	o_1 Centauri	5·2	27 8	58 53·4	s.f.	11	5·2– 9·0	
78	P. XI. 105	5·7	28 45	40 2·1	91°	1	6·5– 6·5	P. XI. 101, mag. 6·2, orange coloured, is 49 sec. p. 9′ N.
79	C.Z. XI. 3331	7·8	49 46	41 50·2	...	0·75	8·6– 8·6	C.Z. XI. 3342, mag. 8·3, is 12 sec. f. 3′ N.
80	C.Z. XI. 3367	7·5	50 20	41 20·8	N.p.	2	8·3– 8·3	
81	C.Z. XII. 548	9·0	12 9 46	29 12·7	N.	1	9·4–10·4	
82	Bris. 4084	7·9	25 57	40 57·1	N.p.	1	8·3– 9·3	Lac. 5173, mag. 6·6, is N.p.
83	Bris. 4251	7·0	50 59	47 8·7	p.	0·8	7·5– 8·0	
84	Lac. 6138	7·5	14 48 41	36 1·3	S.p.	4	7·7– 9·7	An 8·5 mag. star is 5½′ S.
85	C.Z. XIV. 3624	8·5	58 34	35 32·1	181°	1·5	8·9–10·0	C.Z. XIV. 3631, mag. 9·1, is 4 sec. f. and N.
86	Th – 37°, 10168	9·5	15 14 58	37 54·3	p.	1	9·9–10·9	Closely S.p. a neat easy pair Lac. 6329, noted at this observatory 20 years ago.
87	C.Z. XV. 1167	9·2	18 48	38 23·2	p.	1	9·9–10·0	*k* Lupi mag. 5·1 is 90″ N.f.; and has a faint comes at 60″ ± N
88	Lac. 6437	5·8	31 23	52 2·6	...	...	...	A and B + C = Dunlop. 189.
					330°	1·8	9·5–10·1	B and C.
89	Lac. 6471	6·8	34 29	39 39·4	s.f.	1	7·0– 9·0	The P.M. is insensible.
90	Lac. 6530	7·3	41 55	25 40·6	10°	1	7·4–10·4	O.A. 14870, mag. 8·5, is a little way N.p.

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No.	Star.	Mag.	1900. R.A. h	m	s	S.Dec. °	′	Estimated. *p.* °	Δ. ″	Mags.	Notes.
91	P. XVI. 37	6·3	16	13	47	39	11·2	290	6	6·4–10·6	
92	Lac. 6796	7·3		15	0	33	3·0	N.p.	6	7·4–10·0	Another comes at 45″ S.f. and Lac. 6797, mag. 7·3, is about 6′ N.f.
93	Lac. 6822	7·7		19	28	47	49·0	300°	0·8	7·8–10·0	Very difficult.
94	Lac. 6837	7·7		19	31	29	41·5	195	1	7·9– 9·9	*h* 4850, mag. 5·7, a wide pair, is 69 sec. N.p.
95	Lac. 6871	7·3		26	32	33	19·1	350	1·5	7·5– 9·5	
96	Lac. 6912	5·6		33	51	48	34·0	180	9	5·7–12·0	A and C. A and B, 12°, 2″ mag. 9·5, was found at Melbourne in 1878. A and D, mag. 7·1, 10″, was observed by *h*. A very beautiful quadruple star followed by a group of stars, one of which is double.
97	C.Z. XVI. 2233	8·5		33	56	48	33·5	N.f.	2	8·6–11·3	In a group of stars.
98	Lac. 6933	6·9	16	35	48	36	53·0	85	1	7·3– 8·3	Both yellow.
99	C.Z. XVI. 2834	7·5		42	22	43	46·0	N.f.	1	7·9– 8·9	
100	Lac. 6969	6·8		47	39	73	15·8	S.f.	0·8	7·0– 8·5	
101	C.Z. XVI. 3270	9·0		47	55	40	53·5	355	1	9·4–10·4	Lac. 7029, mag. 6·4, is S.f. and C.Z. XVI. 3280, mag. 8·9, is N.f.
102	Lac. 7120	7·3	17	0	7	44	18·4	130	4	7·4– 9·9	
103	C.Z. XVII. 480	8·0		9	3	33	43·2	320	0·7	8·4– 9·4	One night only.
104	Lac. 7146	7·0		9	7	69	55·8	S.f.	2	7·1–10·0	ι Apodis, mag. 5·8, is S.f.
105	C.Z. XVII. 1604	8·4		25	11	30	12·9	173	2	9·1– 9·3	C.Z. XVII. 1603, mag. 8·5, is 2′·8 N.p.

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No.	Star.	Mag.	1900. R.A. h	m	s	S.Dec. °	′	Estimated. *p.* °	Δ. ″	Mags.	Notes.
106	Lac. 7344	7·7		29	35	49	10·8	150	1	8·1– 9·1	λ Aræ, mag. 5·6, is 10′ S.f.
107	C.G.A. 10 (Mess. 6)	8·9		33	0	32	17·5	130	1·5	9·3–10·3	Closely S.p. P. XVII. 159.
108	Th.–40°, 11849	9·3		40	59	40	5·8	...	1·5	9·8–10·5	ι₁ Scorpii, mag. 3·3, is 24 sec. p. 1′ N.
109	C.Z. XVII. 3241	9·3		49	24	28	3·6	S.p.	2·7	9·7–10·5	
110	Lac. 7503	7·5		51	52	47	45·8	125	1·5	7·7– 9·7	Followed by two stars, mags. 7·2 and 8·3.
111	Lac. 7593	7·2	18	7	37	56	40·7	310	1	7·3– 9·8	
112	Lac. 7889	6·7		46	33	47	23·7	S.	2	6·8–10·0	Lac. 7891, mag. 7·1, is closely N.f.
113	Bris. 6535	6·9		51	18	48	38·4	225	3	6·9–11·0	
114	C.G.A. 26377	7·8	19	10	32	63	4·5	280	0·7	8·2– 9·0	An 8·5 mag. star 27 sec. p.
115	I. Melb. 983	7·9		16	37	62	22·5	315	3	8·0–11·0	
116	C.Z. XIX. 647	8·4		16	43	46	0·8	170	1·7	8·7–10·0	C.Z. XIX. 648, mag. 8·6, is 17″ S.
117	Lac. 8102	6·9		23	26	60	28·6	180	1	7·3– 8·3	
118	Lac. 8124	7·0		25	32	46	59·0	137	1	7·1– 9·6	
119	Lac. 8163	7·4		34	0	59	14·2	175	1·2	7·7– 9·0	
120	Lac. 8194	7·1		40	14	62	3·5	185	0·8	7·6– 8·1	A and B. A + B and C = *h* 5141 seems unchanged.
121	Lac. 8207	5·5		42	16	59	26·6	80	0·7	5·7– 7·7	A very fine pair.
122	P. XIX. 266	7·6		43	45	42	6·6	330	4	7·7–10·5	
123	Lac. 8352	7·1	20	3	30	47	1·6	177	6	7·2–11·0	
124	Bris. 6817	7·7		9	30	63	28·0	45	2	7·8–10·5	Lac. 8368, mag. 6·7, is closely S.f.

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No.	Star.	Mag.	1900. R.A. h	m	s	S.Dec. °	′	Estimated. *p.* °	Δ. ′	Mags.	Notes.
125	C.Z. XX. 252	8·2		9	32	46	12·8	40	1	8·6– 9·4	An 8·5 mag. star follows s.
126	C.Z. XX. 438	9·0		15	19	57	25·6	p.	1	9·5–10·0	The most N. of a small triangle of 9 mag. stars, about 40 S.p. α Pavonis, mag. 2·1. First seen by Mr. Innes at Sydney 1894, but not then clearly identified.
127	ν Microscopii	5·6		27	3	44	51·3	N.f.	65	5·7– 9·0	A and B + C.
								100	0·6	9·5–10·0	B and C. Guesses; too close for the telescope.
128	Bris. 6902	7·8		36	18	52	9·4	325	2·3	7·9–10·4	η Indi, mag. 4·7, is 25 sec. f. 7′ S.
129	Rumk. 529	7·9		48	34	59	39·2	30	1	8·1–10·1	C.Z. XX. 1552, mag. 8·4, a neat pair first noted at Cordoba, is 15′ N.f.; and C.Z. XX. 1547, mag. 8·5, is also in the field.
130	Lac. 8650	7·0		57	15	48	21·3	313	3·2	7·1–11·0	Discovered by Mr. Innes on 1894 Dec. 4 at Sydney, but not sufficiently identified at the time.
131	Anon.	9·0	21	14	47	52	12·3	N.	1	9·5–10·0	Lac. 8767, mag. 6·6, is 20 sec. p. 1′·8 N. The pair is the last of a group of four stars
132	Lac. 8779	7·5		16	5	52	22·0	300	1·3	7·6–10·0	The S.f. of 3 stars in the finder.
133	C.Z. XXI. 664	8·5		23	4	39	15·9	...	4	8·6–11·0	
134	Lac. 9104	7·7	22	16	3	56	39·4	300	0·6	8·1– 8·5	
135	π_1 Gruis	6·7		16	37	46	27·1	190	2.5	6·8–11·5	Very neat; the chief star is red.
136	C.X. XXII. 554	7·5		19	53	45	37·2	265	1·8	7·7– 9·2	C.Z. XXII. 559, mag. 8·0, is 11·5 sec. f. 7′ N.
137	Lac. 9125	6·9		20	46	58	30·6	315	1·5	7·0–10·5	Difficult. C.G.A. 30613, mag. 7·6, is 20 sec. f.

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No.	Star.	Mag.	1900. R.A. h	m	s	S.Dec. °	′	Estimated. p. °	Δ. ″	Mags.	Notes.
138	Lac. 9188	6·6		32	0	40	22·6	290	2·5	6·7–11·0	Similar to β 771, which is 44′ S., but the new pair is closer and the *comes* fainter.
139	η Gruis	5·1		39	30	54	1·6	180	15	5·1–12·5	Seen whilst trying to verify a suspected duplicity in the chief star towards 320°.
140	Lac. 9241	8·2		41	36	55	1·5	270	3	8·4–10·4	The last of a group of stars.
141	O.A. 22432	9·1		43	51	20	47·3	N.p.	2	9·6–10·1	
142	C.Z. XXIII. 160	7·5	23	7	33	32	51·6	270	4	7·6–11·0	
143	Lac. 9405	7·2		9	36	60	14·3	5	2·5	7·3–10·5	
144	Lac. 9467	8·1		20	13	43	26·9	5	0·9	8·5– 9·5	
145	C.Z. XXIII. 644	8·7		25	20	58	39·8	80	1·3	9·0–10·3	C.Z. XXIII. 655, mag. 8·5, is 21 sec. f. 6′ S.
146	Lac. 9641	7·3		49	54	37	55·2	215	0·75	7·8– 8·3	A star 7·7 mag. is 71 sec. p. 2½′ S.

New Double Stars noted at the Transit Circle.

No.	Star.	Mag.	R.A. h	m	s	S.Dec. °	′	p.	Δ.	Mags.	Notes.
1	Th. −41°, 178	8·7	0	36	2	41	45·3	260	4	9·2– 9·7	Discovered by Mr. Power.
2	C.Z. I. 98	8·3	1	5	0	40	40·5	80	2·5	8·8– 9·3	„ „ Cox.
3	C.Z. III. 108	9·2	3	4	30	42	53·8	250	2	9·8–10·1	„ „ „

Angles, &c., estimated at the 7-inch equatorial.

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Corrections to lists of Double Stars.

Monthly Notices, vol. lv. p. 312.

No. 1. λ *Toucanæ.* Identification erroneous. This pair is U.A. 64 *Toucanæ*, which was noted as a double star at Cordoba in 1873.

No. 18. Identification erroneous. The star is Lac. 8602. Position for 1900 R.A. $20^h 47^m 53^s$. Decl. — 52°29′·7.

Journal Brit. Astron. Association.

No. 42. This star is single in the 7-in. equatorial of this Observatory. Star probably wrongly identified at time of first observation.

Royal Observatory :
Cape of Good Hope.

Micrometrical Measures of the Double Stars in the Great Nebula and Cluster Surrounding η Carinæ, made with the 24-inch Refractor of the Lowell Observatory. By T. J. J. See, A.M., Ph.D. (Berlin).

Micrometrical measures of the double stars in the great nebula and cluster surrounding η *Carinæ* would seem to be a desirable supplement to the determination of the positions of the 217 single stars of that interesting region made by Gould, and embodied in the *Argentine General Catalogue*, pp. 625–630. The earlier work of Sir John Herschel in the same region led him to detect and to measure the approximate angles and distances of some of the double stars given below ; we have compared his results with those here obtained, and there are thus disclosed in several cases measurable differences, which are most probably due to changes in the past sixty years. Our observations have been made when the cluster was within an hour of the meridian, and, therefore, at an altitude of about 11°.

It will readily be understood that the atmospheric spectra of stars seen at our station, 7,600 feet above sea level, are much less troublesome than at places where the atmosphere is denser, yet it is apparent that exact micrometrical measurement is a matter of some difficulty, and hence in this work we have been careful to select nights when the seeing was good. Accordingly, although the objects were measured within 11° of the horizon, and more or less involved in the nebulosity which extends throughout the